

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

Keystone Designs

South Carolina Manufacturing Extension Partnership

Synchronized Flow

Client Profile:

Keystone Designs, Inc., began in 1992 with two employees as a fabricator of both solid surface countertops and cultured marble burial urns. Fourteen years later, the company employs over 70 people and occupies over 25,000 square feet in 4 buildings. Located in Leesburg, Indiana, Keystone Designs manufactures solid surface and stone countertops for recreational vehicle (RV), modular homes, marine, commercial, and residential markets.

Situation:

The rapid rise from limited sales in 1992 to over \$8.5 million sales projected in 2005 has brought its share of growing pains to Keystone Designs. The systems and manufacturing operations that served well at a smaller level were not working well with greater volumes. Keystone could no longer consistently deliver products on-time. Lead times on orders were stretching to an unacceptable 3 to 4 weeks and customers were looking for alternative options. The atmosphere became one of chaos and frustration. Despite best efforts, the company was seeing missed orders, out of control inventory, morale problems, and increased stress. After taking over as president in the summer of 2004, Deanna Hicks addressed the problem aggressively and immediately established a management team to work at resolving issues and make improvements that would fall to the bottom line. The team was still looking for the "silver bullet" when Deanna attended the Dupont Fabricators Conference in Phoenix, Arizona in October 2004. As a certified Corian fabricator, she was approached by DuPont about participation in the DuPont Profit Optimization Program (POP). After learning more about the program, Keystone contracted with the South Carolina Manufacturing Extension Partnership (SCMEP), a NIST MEP network affiliate, to implement synchronous flow management techniques to improve the profits and quality of life for all of Keystone Designs.

Solution:

What SCMEP found at Keystone Designs was a team of dedicated managers and associates that desired to improve customer service, their daily work life and profitability but was unsure how to truly effect lasting change without fire fighting and working harder for longer hours. Beginning with facilitating a strategic planning initiative and educating the leadership team in synchronous flow technology, Dwayne Robinson of SCMEP worked with the management and associates to initiate change. The training focused on teaching management to look at the organization as a complete system rather than a collection of separate and autonomous parts. With 85 percent of sales coming from products manufactured for the RV and marine markets, focus was placed on flow through the RV shop. The objective was to implement a system for managing production throughout the four zones (CNC Cut, Fabricate, Edge Profile, and Finish Sanding) that made up the manufacturing floor. At the heart of the system was a two day shipping buffer that served to insure on-time delivery. Replenishment to this buffer, using a five day build schedule, acted as the "drum" and set the pace for the manufacturing system. It was also recognized that the internal manufacturing control point was the

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finish sanding operation. This internal resource was and continues to be the limiting factor for the manufacturing process and limits how much daily output can be achieved. Once it was recognized that this was the operation that "makes the money" for the plant, steps were taken to change process and behavior to get the most work through it. Associates were educated on the reasons behind the change and grasp the concepts quickly. All efforts were focused on being sure that the sanders remained focused on sanding and that all other operations were "synchronized" with this process.

Results:

- * Improved lead time from 3 to 4 weeks to five days.
- * Increased on-time delivery from 80 percent to more than 97percent.
- * Improved employee morale and participation.
- * Reduced number of units placed on the mobile cards moving throughout the plant, increasing velocity by 20 to 25 percent.
- * Increased floor space to allow integration of marine manufacturing line into RV shop.
- * Reduced labor by 32 percent.
- * Estimated return on investment close to 1000 percent.
- * Focused on synchronous flow methodology in custom shop and start up stone operation.
- * Expanded improvement efforts to include human resource initiatives such as high performance work teams, structured scale wages, career progression planning, and safety programs.
- * Moved SCMEP into role as Business Advisor/Leadership Coach.

Testimonial:

"I feel extremely positive about the results from working with SCMEP and especially Dwayne Robinson. Dwayne has not only helped in improving our bottom line but has also energized the management staff. He is driven to realize results but is also sensitive to daily requirements of a business."

Deanna Hicks, Owner